

for allowance and such action is earnestly solicited.

The §103 Rejection

The Examiner has rejected claims 1-22 under 35 U.S.C. §103 as being obvious over de Boer, et al., U.S. patent no. 5,518,751 ("de Boer"), in view of Cook, et al., U.S. patent no. 5,554,646 ("Cook"). It is the Examiner's position that de Boer teaches that CLA in food compositions such as milk are useful in treating disorders such as diabetes. The Examiner points to column 1, lines 35-43 in support of that view. The Examiner recognizes that de Boer does not teach particularly that CLA is useful in a method of treating diabetes, the specific conjugated linoleic acids claimed or the amount of CLA of the present invention. The Examiner cites Cook for teaching a method of adding linoleic acid compounds into animal feed to reduce fat in an animal and that specific isomers of octadecadienoic acid may be included in the conjugated linoleic acid.

From the teachings of the cited art the Examiner concludes that it would have been obvious to employ CLA in a method of treating diabetes and that it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate about 1 mg to about 10,000mg/kg of body weight of the *trans,cis*-9,11-octadecadienoic acid, *cis,cis*-9,11-octadiendioic acid or *trans,cis*-10,12-octadecadienoic acid into a milk composition product useful in a method of treating diabetes. The Examiner further argues that one of ordinary skill would have been motivated to employ CLA in a method of treating diabetes because de Boer, et al. Clearly teaches unsaturated fatty acids, preferably CLA, are useful in treating disorders including diabetes. It is the Examiner's conclusion, therefore, that one of ordinary skill would have reasonably *expected* that CLA would have been useful in a method of treating diabetes. Applicants respectfully traverse the Examiner's rejection.

It is respectfully submitted that the Examiner has not made out a cogent case for

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obviousness. Indeed, it is respectfully submitted that the Examiner has seized on a brief, *ambiguous* statement in the background section of a U.S. patent to de Boer which does not teach or suggest the use of CLA for treating diabetes and combined that ambiguous disclosure with the teachings of Cook which are directed to using CLA to prevent or treat the adverse effects of antibody based hypersensitivity (attenuating the allergic response of Animals), to argue that the claimed invention is obvious. As will be argued in detail herein, the Examiner's argument is not cogent and represents a rejection based upon an impermissible *hindsight* reconstruction of the teachings of the two references in rendering the present invention obvious. A combination of the teachings of the references relied upon by the Examiner, without reliance on a *hindsight* reconstruction, which is invalid under the law, would not result in a finding that the present invention was unpatentable. See, Michael L. McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 60 USPQ2d 1001 (Fed. Cir. 2001), a copy of such case enclosed.

de Boer Does Not Teach or Suggest the Use of CLA for Treating Diabetes

Contrary to the Examiner's conclusions regarding the teachings of de Boer, de Boer *does not* disclose or suggest the use of CLA for the treatment of diabetes. In contrast, de Boer merely reiterates and summarizes the state of the art at the time of the filing of de Boer (September 8, 1994), which did not recognize the significance of conjugated linoleic acid in the treatment of diabetes. Even the Examiner admits this in the office action on page 3, first paragraph. Contrary to what the Examiner has posited in making the rejection, the art clearly did not teach or suggest the use of CLA as a treatment modality for diabetes. Indeed, prior to the present application, it was not known that CLA, in contrast to γ -linolenic acid (GLA, commonly found in evening primrose oil, for example), could be used to treat diabetes. Based upon the state of the prior art at the time of the filing of deBoer on September 8, 1994, the passage in de Boer relied upon by the Examiner (namely, the fourth paragraph of column 1 of de Boer) can be taken to mean that fatty acids disclosed in that paragraph *which were taught in the prior art to be useful for treating diabetes* could be used to treat diabetes. At that time, however, and as explained in great detail

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in the previous communications with the Patent Office, those fatty acids did not include CLA as presently claimed, but did include some of the other fatty acids which were cited in the ambiguous passage of de Boer. Based upon the foregoing, it is respectfully submitted that the passage in de Boer relied upon by the Examiner represents a recitation of the prior art at the time of the filing of the de Boer application, which art taught that certain fatty acids disclosed by de Boer in the ambiguous passage could be used to treat diabetes, but *failed to recognize that CLA was a particularly effective treatment of diabetes*. It is further noted here that de Boer is otherwise inapposite to the present invention inasmuch as it relates to methods for the preparation of milk and milk powders having a long storage life by adding a fat fraction containing unsaturated fatty acids to the milk liquid.

The Examiner has cited no art, separate from the ambiguous disclosure in the background section of deBoer, which even arguably teaches or suggests the use of CLA for the treatment of diabetes. Thus, in context, given the ambiguous nature of the disclosure on which the Examiner relies, the Examiner's construction of the ambiguous disclosure must fail. Moreover, it is respectfully submitted that the Examiner is clearly engaging in impermissible hindsight reconstruction of the ambiguous teachings of the art to somehow justify that the present invention is obvious. Note that at the time of the filing of the application, certain fatty acids were known to be useful in the treatment of diabetes (see above). However, prior to the present application, CLA was not known to be useful for treating diabetes, although it was known for the treatment of other conditions, which are actually set forth in the disclosure of deBoer. Indeed, the Examiner must contort the ambiguous disclosure of deBoer because the art actually failed to appreciate the present invention.

Prior to the present application, CLA was not known as a treatment modality for diabetes, and indeed, the first report in the literature of the significance of CLA in the treatment of diabetes, was Applicants' own paper, *Biochem Biophys Res Commun*, March 27, 244(3) 678-682 (1998). The date of Applicants' paper is some four (4) years after the filing date of de Boer.

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Prior to the present application, CLA was known for its anti-carcinogenic and anti-atherogenic properties having cardiovascular implications. Also known in the art was that α -linolenic acid and linoleic acid possesses properties which make it potentially useful in the treatment of cardiovascular disease (as indicated by de Boer). Thus, the disclosure in de Boer at column 1, lines 35-43, is completely consistent with the conventional understanding at the time of the filing of that reference and refers to the fact that it was known in the art to use linolenic acid in cardiovascular diseases and diabetes. It was, however, not known in the art before the present invention, that CLA could be used for the *treatment of diabetes or that CLA administration is a particularly effective treatment for diabetes*. Despite Applicants' requests in previous papers to have the Examiner cite *any reference* other than deBoer in support of the contention that the use of CLA in the treatment of deBoer teaches the use of CLA, the Examiner has not been able to cite such a reference. That is because such a reference does not exist.

The ambiguous passage in de Boer, which the Examiner relies on for the teaching that CLA may be used to treat diabetes is found in the background of the invention section at column 1, lines 35-43 and is presented below:

"An important reason for enriching milk or milk powders with fats containing a high percentage of unsaturated fatty acids or strongly unsaturated fatty acids is to prevent or reduce cardiovascular diseases, atrophies, rheumatic disorders or diabetes. In particular, such products contain a high percentage of oleic acid, linoleic acid which may or may not be conjugated, α -linolenic acid and unsaturated C₂₀ and C₂₂ fatty acids."

A fair reading of that ambiguous passage in the BACKGROUND OF THE INVENTION section of de Boer is that de Boer is merely reviewing the conventional understanding at the time of the filing of de Boer which failed to appreciate the particularly effective use CLA could have in treating diabetes. Thus, it may be accurately argued and concluded, that de Boer merely reiterates a broad discussion of the art which did not teach or suggest the use of CLA for the treatment of diabetes, but rather the use of one or more of the disclosed fatty acids to treat the

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indicated conditions. It is again noted that, despite Applicants' several requests, the Examiner has failed to clear up the ambiguous disclosure of deBoer and has not separately cited any reference which actually teaches or suggests the use of CLA for the treatment of diabetes and instead, relies on the deficient disclosure of de Boer to make the rejection. Thus, de Boer does not teach the use of CLA for the treatment of diabetes, because the use of CLA to treat diabetes was first disclosed in the present application, well after de Boer. Again, Applicants challenge the Examiner to clarify the ambiguous disclosure of de Boer and actually cite a prior art reference which teaches the use of CLA for the treatment of diabetes.

Cook Does Not Obviate the Deficiencies of de Boer

Turning to the disclosure of Cook, this reference discloses a method of using CLA to reduce an immunogenic (allergic) response in animals, including humans. Although this reference supports the view that CLA may be used to attenuate a humoral immunogenic response (and thus, allergies) and/or to increase the white blood cell count in a mammal, there is absolutely no disclosure or suggestion of the use of CLA in the treatment of diabetes. Indeed, other than the fact that Cook suggests that CLA may be included in an animal's diet, the relevance of Cook has not been made clear to Applicants.

It is respectfully submitted that a combination of de Boer and Cook does not disclose or suggest the present invention and that these references, in combination, only become relevant to the present invention *after one has read the instant application*. Thus, the Examiner's rejection is an example of impermissible hindsight reconstruction, a rejection which is clearly impermissible under the law. See MPEP §706.02(j) and *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). This is especially true where, as here, the prior art, *in general*, does not disclose or suggest the claimed invention, and the Examiner relies for such teaching, on an ambiguous description of the prior art. As was stated in *In re Vaeck*, "the teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the

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prior art and not based on applicant's disclosure." *In re Vaeck*, at 20 USPQ2d 1438,1442. In the present application, the Examiner has seized upon the ambiguous disclosure in de Boer, and with impermissible reference to Applicants' disclosure and teachings, has concluded that de Boer teaches the present invention. *The Examiner's analysis therefore represents a classical case of hindsight reconstruction to make an obviousness rejection- an analysis which the Court of Appeals for the Federal Circuit has found to be impermissible.*

See also the CAFC's discussion of hindsight reconstruction in the enclosed McGinley case on page 12, in the first full paragraph.

"The genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some 'teaching, suggestion or reason' to combine cited references. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 U.S.P.Q.2D 1378, 1383 (Fed. Cir. 1997). When the art in question is relatively simple... the opportunity to judge by hindsight is particularly tempting. Consequently, the tests of whether to combine references need to be applied *rigorously*. (Emphasis ours). See *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2D 1614, 1617 (Fed. Cir. 1999), limited on other grounds by *In re Gartside*, 203 F.3d 1305, 53 U.S.P.Q.2d 1769 (2000) (*guarding against falling victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher*)." (Further emphasis ours).

In the present application, there is simply no cogent basis upon which to suggest that the prior art taught the use of CLA for the treatment of diabetes. While the disclosure in de Boer is unclear, the remaining art cited, Cook, is *inapposite* to the teaching. Yet, the Examiner, recognizing the deficiencies in the art, does not separately posit a prior art reference which teaches the use of CLA for the treatment of diabetes- that is because no independent basis exists. Applicants have respectfully requested the Examiner to cite whatever prior art may be available for the teaching that CLA is a particularly effective treatment for diabetes, independent of the ambiguous disclosure of de Boer. If the Examiner cannot make such a recitation, Applicants respectfully request the Examiner to withdraw the rejection of the present application.

The Examiner has also maintained his rejection of claims 1-22 under 35 U.S.C. §103 as

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being obvious over Semenkovich and Heinecke, *Diabetes*, 1997, 46:327-334 ("Semenkovich"), in view of Steinhart, *Journal of Chemical Education*, 1996, 73(12):A302 and Cook (see above).

In sum, the Examiner cites Semenkovich for teaching that most diabetic patients die from macrovascular complications and that oxidative modification of lipoproteins in diabetic patients is enhanced, with this being one of the major risks for developing cardiovascular complications (macrovascular complications) in diabetic patients. Semenkovich is also cited for teaching that antioxidants are potent inhibitors of lipoprotein lipid peroxidation and thereby reduce the lipoprotein oxidation products and cytotoxicity caused by those products. The Examiner acknowledges that Semenkovich does not expressly teach the employment of CLA in a method to treat diabetes or the symptoms of diabetes or the specific isomers of octadecaenoic acid or amounts of CLA.

The Examiner cites Steinhart for teaching CLA as a natural antioxidant. Cook is cited for teaching a method of adding CLA to animal feed.

From the disclosures of Semenkovich, Steinhart and Cook as set forth in the office action, the Examiner contends that the present invention is obvious and therefore, unpatentable. Applicants respectfully traverse the Examiner's rejection. A combination of these references in no way teaches or suggests that CLA was known or would have been expected to be a particularly effective treatment for diabetes.

Semenkovich is a reference which describes the relationship between diabetes and atherosclerosis, noting that in the vast majority of cases, individuals which exhibit symptoms of diabetes do not, in fact, develop premature vascular disease. See page 327 of Semenkovich, second column. In addition to the somewhat limited connection between diabetes and atherosclerosis is the fact that the mechanism for development of premature vascular disease is not particularly well understood. Indeed the title of the Semenkovich article is "*The Mystery of*

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Diabetes and Atherosclerosis Time for a New Plot. While Semenkovich teaches that antioxidants may be useful in addressing issues associated with oxidized lipoproteins in the development of atherogenesis, there is absolutely no disclosure that CLA *in particular* would be useful in the treatment of diabetes. Indeed, CLA is not even mentioned. Rather, the antioxidant of choice is ascorbate (page 332), a particularly potent antioxidant. Even a suggestion in Semenkovich that antioxidants (ascorbate) might be useful in reducing lipoprotein oxidation products and therefore, may play a beneficial role in limiting atherogenesis, does not evidence that CLA as an antioxidant could play such a role. See, for the example, the previously enclosed Abstract of Berliner and Heinecke, *Free Radic. Biol. Med.*, 1996, 20(5):707-727 ("Berliner"), cited in Semenkovich (note 64), which clearly indicates that the mechanism of oxidation of lipoprotein is promoted by several different systems, including protein-bound metal ions, thiols, reactive oxygen intermediates, lipoxygenase, peroxynitrite and myeloperoxidase. While Semenkovich may suggest the generic use of antioxidants to treat macrovascular disease in those limited number of diabetic patients in which such a condition occurs, there is absolutely no suggestion in Semenkovich that CLA should be used to treat diabetes *per se*. *Noted here is the fact that even Semenkovich acknowledges that only a limited number of diabetic patients actually are at risk for macrovascular disease, most likely based upon some genetic predisposition.*

A limited disclosure, Semenkovich cannot possibly be read to suggest the use of CLA as a treatment modality for diabetes. It cannot even be fairly said that Semenkovich suggests CLA as a treatment modality for macrovascular disease, because it is not clear from the disclosure of Semenkovich (which cites Berliner) or from Berliner itself, that CLA would be a particularly effective antioxidant, given the lack of understanding of the oxidative process in producing such a condition and the fact that ascorbate, a particularly potent antioxidant, is disclosed. Semenkovich is clearly a deficient reference.

Steinhart does absolutely nothing to cure the deficiencies of Semenkovich, other than to suggest that CLA may be useful to treat macrovascular disease, which occurs in a limited number

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of diabetic patients. See Semenkovich at page 327. Steinhart discloses generally, that CLA is a natural antioxidant, which has important uses in the limitation of carcinogenesis and in certain instances, atherogenesis. Combining Semenkovich with Steinhart at best, merely suggests that CLA may be useful to treat atherogenesis. There is absolutely no disclosure or suggestion in Steinhart that CLA is useful for the treatment of diabetes, or even that the type of atherosclerosis associated with diabetes would be treated by CLA, given the mechanistic complexity of such a disease. In short, Steinhart does not even obliquely suggest that CLA can be used to treat diabetes.

Turning to Cook, Cook does not obviate the deficiencies of a combined disclosure in Semenkovich and Cook in failing to suggest the present invention. Cook has been discussed supra, and that discussion is referenced here. Cook teaches that CLA may be used to limit humoral based allergic reactions or to decrease white blood counts. There is not even an oblique reference in Cook to diabetes. Cook is inapposite to this discussion. Indeed, Applicants are somewhat baffled that Cook was even used in making this rejection.

Combining the disclosures of Semenkovich, Steinhart and Cook does not result in a suggestion of the present invention. At best, such a combination suggests that CLA *might be* used to treat atherosclerosis in a limited number of diabetic patients. But that does not suggest the use of CLA for the treatment of diabetes *per se*. Thus, the Examiner has essentially used three references to make out an *inherency rejection*, which is typically cited under 35 U.S.C. §102. To the extent that the Examiner is relying on the disclosures of Semenkovich, Steinhart and Cook to make a rejection based upon an *inherent teaching*, that rejection can not stand. A combination of teachings based upon Semenkovich, Steinhart and Cook cannot even make out an arguable case that the present invention is inherently disclosed, because such a rejection would have to rely on more than one reference (impermissible to an inherency rejection) and the teaching would not *inevitably and always* result in the claimed invention.

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In order to find a claimed invention invalid under the doctrine of inherency, the Examiner must show that one of ordinary skill following the teachings of the reference must necessarily, inevitably and always produce every element of the claimed invention. Mere possibilities or probabilities are not sufficient for making out a proper case under the doctrine of inherency. The result must be *absolutely certain*. See In re Robertson, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999); Glaxo, Inc. V. Novopharm, Ltd., 52 F.3d 1043, 34 U.S.P.Q.2d 1565 (Fed. Cir. 1995), *cert. denied*, 116 S.Ct. 516 (1995); Electro Medical Systems, S.A. v. Cooper Life System, Inc., 34 F.3d 1048, 32 U.S.P.Q.2d (Fed. Cir. 1994); Continental Can Co. USA v. Monsanto Co., 948 F.2d 1264, 1269, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991); W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553-54, 220 U.S.P.Q. 303, 313-14 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); In re Oelrich, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 325-26 (C.C.P.A. 1981); and Phillips Petroleum Co. v. U.S. Steel Corp., 673 F.Supp. 1278, 1295 n.12, 6 U.S.P.Q.2d 1065, 1076-77 n.12 (D.Del. 1987), among others. It is respectfully submitted that the Examiner has asserted a legal doctrine which has been misapplied to the facts of the instant invention. There is simply no possible way that the Examiner's inherency argument may be cogently maintained in the face of the teachings of Semenkovich, Steinhart and Cook.

The Examiner cannot cite any specific method of treatment which is disclosed in any one reference which meets the limitations of the claimed invention. That is because the presently claimed invention is not inherent to the disclosure of the cited references. The Examiner cannot cite a single, specifically disclosed method in Semenkovich, Steinhart or Cook which *necessarily, always and inevitably* meets the limitations of the claims of the present invention. Indeed, even if the Examiner combines the references, the Examiner cannot make out such a case, because such a case would only occur, at best, accidentally, if at all. Because the Examiner cannot cite any composition which meets the requirements of the doctrine of inherency as established by relevant caselaw, the Examiner has failed to make out a cogent case that the present invention is unpatentable.

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Again, the Examiner relies on a hindsight construction to make an obviousness rejection. There is absolutely no teaching or suggestion that one can glean from the combined teachings of Semenkovich, Steinhard and Cook that evidences that CLA is useful to treat diabetes. Again, the Examiner has used the inventor's own teachings in the present specification against the present application in order to assert that the present invention is unpatentable. Indeed, without the teachings of the present specification, the Examiner would not even be aware that CLA could be used to treat diabetes. That is the hallmark of hindsight reconstruction. As discussed in great detail hereinabove, the CAFC has opined that this type of hindsight construction is impermissible. Thus, the present invention is clearly patentable over the references cited by the Examiner.

For the above reasons, Applicant respectfully asserts that the claims set forth in the present amendment are now in compliance with 35 U.S.C. Applicants respectfully submit that the present application is now in condition for allowance and such action is earnestly solicited.

Applicant has neither cancelled nor added any claims. No fee is therefore due for the presentation of this amendment. A petition for a one month extension of time is enclosed as is a notice of appeal. Please charge deposit account 04-0838 in the amount of \$215.00. Small entity status is claimed for the present application.

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Please credit any overpayment or charge any additional fee due to Deposit Account No.

04-0838.

Respectfully submitted,

COLEMAN SUDOL SAPONE, P.C.

By 

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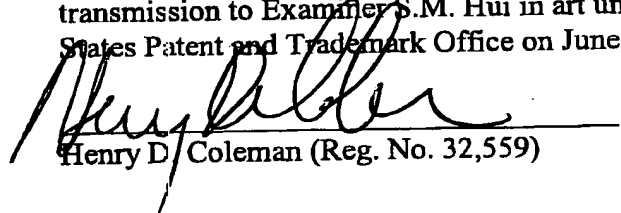
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Dated: June 26, 2003

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60 U.S.P.Q.2D (BNA) 1001MICHAEL L. MCGINLEY, Plaintiff-Appellant, v. FRANKLIN
SPORTS, INC., Defendant-Cross Appellant.

00-1324, 01-1113

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

262 F.3d 1339;2001 U.S. App. LEXIS 18758;60 U.S.P.Q.2D
(BNA) 1001

August 21, 2001, Decided

SUBSEQUENT HISTORY: Rehearing and Rehearing en banc
Denied October 17, 2001, Reported at: 2001 U.S. App. LEXIS
24254.**PRIOR HISTORY:** [*1] Appealed from: U.S. District Court for
the District of Kansas. Judge John W. Lungstrum.**DISPOSITION:** REVERSED-IN-PART AND AFFIRMED-IN-PART.**COUNSEL:** Kip D. Richards, Walters Bender Strohbehn &
Vaughn, P.C., of Kansas City, Missouri, argued for plaintiff-
appellant.Joseph B. Bowman, Shook, Hardy & Bacon L.L.P., of Kansas City,
Missouri, argued for defendant-cross appellant. Of counsel was
Daniel P. Devers.**JUDGES:** Before MAYER, Chief Judge, MICHEL and
CLEVENGER, Circuit Judges. Opinion for the court filed by Circuit
Judge CLEVENGER. Dissenting opinion filed by Circuit Judge
MICHEL.**OPINIONBY:** CLEVENGER**OPINION:**

CLEVENGER, Circuit Judge.

This is a patent infringement suit in which Michael L. McGinley
charges Franklin Sports, Inc. ("FSI") with willful infringement of
claims 1, 2, 6, and 7 of U.S. Patent No. 5,407,193 ("the '193
patent"). On summary judgment, the United States District

Court for the District of Kansas ruled in favor of McGinley on the issue of infringement, and the case proceeded to trial on the issues of validity and willfulness. The jury found that the asserted claims were not invalid and were willfully infringed. On a subsequent motion filed by FSI for judgment as a matter of [*2] law ("JMOL"), the trial court set aside the jury verdict on validity, holding that the asserted claims of the '193 patent are invalid as obvious pursuant to 35 U.S.C. § 103(a).

McGinley appeals the district court's grant of JMOL of invalidity and the earlier denial of McGinley's motion for leave to amend the complaint to join his business, S.C. Products, Inc. ("SCP"), as an additional plaintiff. On cross-appeal, FSI challenges the district court's grant of summary judgment in favor of McGinley on infringement and the denial of its motion for a new trial on willfulness.

Because we conclude that the district court erred in finding that no reasonable jury could have reached a verdict of nonobviousness, we reverse the JMOL of invalidity. We affirm the district court's rulings in all other respects.

I

Background

The application for the '193 patent was filed on July 3, 1991, and the patent issued on April 18, 1995. In general terms, the '193 patent discloses and claims an instructional pitching device in the form of a regulation baseball with specific "finger placement indicia" for teaching students how to grasp a baseball for throwing different types of pitches. [*3] With the endorsement of a famous professional baseball pitcher, McGinley's invention was marketed and distributed as the Roger Clemens Instructional Baseball ("RCIB"). FSI also manufactured and sold a baseball designed to teach students to throw different types of pitches. The accused device in this case, the Franklin Pitch Ball Trainer 2705 ("FSI's 2705 baseball"), was sold in the United States from at least as early as April 1995 to March 1999.

In the preferred embodiment of the claimed invention, an aspect of which is illustrated in the following figure, three sets of finger placement indicia 11 are positioned on the cover 17 of a regulation baseball 10. Each set of indicia 11 is intended to illustrate the placement of a student pitcher's index and middle fingers so as to throw a particular type of pitch (e.g., two-seam fast ball, slider, curve ball, etc.).

[SEE FIGURE IN ORIGINAL]

Indicia 11 are presented in two sizes, to allow the indicia intended for a left-handed student to be easily distinguished from the indicia intended for a right-handed student. The smaller indicia, exemplified by indicia 24 and 26, are intended for use by left-handed pitchers, while the larger [*4] indicia, as represented by indicia 20 and 22, are intended for use by right-

handed pitchers. Moreover, indicia 11 are coded by coloring all indicia which are representative of a certain type of pitch in one color and indicia representative of another type of pitch in a different color. To further assist a student in learning how to throw a particular pitch, the indicia are shaped so as to indicate the relationship of the palm of the hand in grasping the ball. Specifically, the portion of each "egg-shaped" indicium to be situated closest to the palm is slightly tapered so as to indicate the correct orientation of the baseball in the palm. Although the preferred embodiment of the '193 patent makes no provisions for "thumb placement indicia," the written description of the '193 patent repeatedly states that the thumb is generally to be positioned on the baseball at a location opposite the corresponding set of finger placement indicia.

As originally filed in 1991, the claims of the '193 patent required that eight sets of finger placement indicia be provided on a single baseball pitching training device. Specifically, the four original claims all required the presence of indicia demarcating [*5] the placement of fingers for four specific types of pitches (i.e., curve ball, two-seam fast ball, slider, and four-seam fast ball), for both left-handed and right-handed students. These claims were rejected on obviousness grounds in view of U.S. Patent No. 2,925,273 ("Pratt"), which had issued on February 16, 1960, more than thirty years before McGinley's filing date. Pratt was brought to the attention of the Patent and Trademark Office ("PTO") via an Information Disclosure Statement ("IDS") filed concurrently with McGinley's priority patent application by McGinley's counsel.

Like the claims originally filed by McGinley, Pratt disclosed, inter alia, a conventional baseball having multiple sets of finger placement indicia for teaching baseball players to throw different types of pitches. Specifically, in the embodiment illustrated in Figure 4 (shown below), Pratt's written description disclosed the placement of finger and thumb placement indicia for three types of pitches (i.e., fast ball, curve ball, and screw ball). Equatorial band 17 was an important feature of Pratt's claimed invention. When a student threw Pratt's baseball correctly, bands of complementary colors in the [*6] equatorial band would blend into a single color to provide a visual indication to the student that the ball had been thrown with proper rotation.

[SEE FIGURE 4 IN ORIGINAL]

Although the similarities between Pratt's disclosure and McGinley's then-existing claims are striking, there are also a few differences between Pratt's teachings and McGinley's initially claimed invention. First, Pratt did not provide for different sets of indicia on a single ball for distinguishing between left-handed and right-handed students. Also, Pratt's finger placement indicia were described and illustrated as being circular, but "phantom lines" illustrating the placement of fingers 21, 22 and thumb 23 were included in the patent figures. These phantom lines, however, are not described in Pratt as actual markings on the baseball. In contrast, the finger placement indicia in the

preferred embodiment of McGinley's invention are actually marked on the ball, and are "egg-shaped" and slightly tapered at one end to indicate the proper orientation of the ball with respect to the student's palm.

Another prior art reference which was brought to the attention of the PTO via McGinley's IDS was U.S. Patent No. 3,110,494 [*7] ("Morgan"), which issued on November 12, 1963. In contrast to Pratt and the '193 patent, which are based on using a conventional regulation baseball, Morgan describes a baseball training device using a lightweight and inexpensive baseball "replica" fabricated in the form of plastic or metallic hemispherical shells which occupy a minimum of space before use, but which can be easily assembled by gluing the two hemispherical halves together. In Figure 6 of Morgan (shown below) and the accompanying written description, a single set of finger-shaped marks D", E", and L" (for teaching proper placement of the forefinger, middle finger, and thumb, respectively) are provided on the baseball training device to teach a student how to throw a baseball with a particular curve or break.

[SEE FIGURE 6 IN ORIGINAL]

Throughout the prosecution history of the '193 patent, McGinley's claims at issue in this case were rejected in view of Pratt on anticipation grounds. With respect to Morgan, although this reference was before the PTO during the entire pendency of McGinley's patent application, it was never explicitly relied upon as a basis for a rejection based on a prima facie case of anticipation [*8] or obviousness.

Ultimately, in 1995, after a series of rejections, amendments, and responses (including a partially successful appeal to the Board of Patent Appeals and Interferences and the filing of a continuation application), the '193 patent issued with 14 claims. Ten of the issued claims (i.e., claims 3-5 and 8-14) explicitly retain the original limitation requiring the inclusion of finger placement indicia on a single baseball pitching training device for both left-handed and right-handed students. These claims were not asserted in this case. Instead, McGinley asserted the remaining four claims (i.e., independent claim 1 and dependent claims 2, 6, and 7) against FSI, alleging willful infringement by making and selling the 2705 baseball. The asserted claims read as follows in their entirety:

1. A baseball pitching training device for duplicating finger placement on a baseball by a student comprising:

a baseball cover;

a plurality of sets of finger placement

indicia on said cover, said sets of indicia comprising:

a first set of indicia demarcating the placement of finger [sic] for throwing a first pitch;

a second set of indicia demarcating [*9] the placement of fingers for throwing, [sic] a second pitch;

a third set of indicia demarcating the placement of fingers for throwing a third pitch;

means for indicating the orientation of the baseball relative to the palm of the hand; and

means for coding said finger placement indicia sets for identification of each of said indicia associated with any one of said sets.

2. The device as claimed in claim 1 wherein said means for coding comprises a color for association with each indicia of a particular set.

6. The device as claimed in claim 1, wherein said means for indicating orientation comprises shaping said indicia to distinguish that portion of the baseball to be located proximate to the palm of the hand.

7. The device as claimed in claim 1 wherein said indicia are shaped to indicate a correct orientation of the baseball with respect to the palm of the hand.

'193 patent, col. 5, ll. 29-48; col. 5, ll. 61-64; col. 6, ll. 1-3.

The district court held a Markman hearing on January 21, 1999, and issued an order construing the disputed claims of the '193 patent shortly thereafter. *McGinley v. Franklin Sports, Inc.*, 45 F. Supp. 2d 1141 (D. Kan. 1999) [*10] (*McGinley I*). On cross-appeal, FSI challenges only the district court's interpretation of the claimed "means for indicating the orientation of the baseball relative to the palm of the hand." The district court construed the term as a means-plus-function limitation pursuant to 35 U.S.C. § 112, P 6, and concluded that the corresponding structure included "a slight taper at the portion of each indicia situated closest to the palm of the hand, and any equivalents of such structure." *Id.* at 1146. FSI's position on appeal is that the claim limitation is not entitled to any range of equivalents

whatsoever.

Based on its claim interpretation, the district court granted McGinley's motion for partial summary judgment on the issue of infringement on October 28, 1999. McGinley v. Franklin Sports, Inc., 75 F. Supp. 2d 1218, 1224-25 (D. Kan. 1999) (McGinley II). At the same time, however, the district court denied FSI's motion for partial summary judgment on validity, *id.* at 1225-32, finding disputed issues of material fact with respect to the obviousness issue. The case proceeded to trial, and on January 19, 2000, the [*11] jury returned a verdict in favor of McGinley, finding the '193 patent not invalid and willfully infringed.

FSI then filed a post-trial motion, seeking JMOL on the issues of validity and willfulness. In the alternative, FSI also moved for a new trial. On April 5, 2000, the district court set aside the jury's verdict and granted FSI's motion for JMOL on invalidity, concluding that "as a matter of law, plaintiff's patent is invalid as obvious in light of Pratt or the combination of Pratt and Morgan." Judgment was entered in favor of FSI, and this appeal followed, vesting us with jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

II

Claim Interpretation

As the first step of the infringement and validity analyses in this case, we resolve any claim interpretation disputes on appeal, without deference to the district court. *Amazon.com, Inc. v. Barnesandnoble.com, inc.*, 239 F.3d 1343, 1351, 57 U.S.P.Q.2D (BNA) 1747, 1751-52 (Fed. Cir. 2001); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456, 46 U.S.P.Q.2D (BNA) 1169, 1174-75 (Fed. Cir. 1998) (en banc); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 U.S.P.Q.2D (BNA) 1321, 1329 (Fed. Cir. 1995) [*12] (en banc), *aff'd*, 517 U.S. 370, 38 U.S.P.Q.2D (BNA) 1461, 134 L. Ed. 2d 577, 116 S. Ct. 1384 (1996).

The only claim interpretation dispute remaining on appeal concerns the limitation in all of the asserted claims requiring "means for indicating the orientation of the baseball relative to the palm of the hand." There is no dispute that this term should be construed as a means-plus-function limitation pursuant to 35 U.S.C. § 112, P 6, and that the claimed function is "indicating the orientation of the baseball relative to the palm of the hand." The only dispute on appeal concerns identification of the corresponding structure.

The district court ruled that the corresponding structure included egg-shaped indicia having "a slight taper at the portion of each indicia situated closest to the palm of the hand, and any equivalents of such structure." McGinley I at 1146. In contrast, FSI's position is that the claim limitation is not entitled to any range of equivalents whatsoever, on the basis that the written description of the '193 patent discloses only egg-shaped indicia

with tapered ends, and that undisclosed equivalents cannot be construed to be within [*13] the scope of a patent claim. In support for its position, FSI points out that the only orientation means explicitly described in the '193 patent is a slight taper to the finger placement indicia, which are to be understood as being shaped in the form of egg-shaped ovals by inspecting the figures of the '193 patent:

To further assist the student the indicia are shaped so as to indicate the relationship of the palm of the hand in grasping the ball. The portion of each indicia intended to be situated closest to the palm is slightly tapered thereby to assist the student in achieving correct orientation of the ball in the palm.

'193 patent, col. 5, ll. 16-22.

FSI's argument on this point is wholly without merit, for it misunderstands the statute. Drafters of means-plus-function claim limitations are statutorily guaranteed a range of equivalents extending beyond that which is explicitly disclosed in the patent document itself:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding [*14] structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, P 6 (1994) (emphasis added). We therefore affirm the district court's claim construction.

III

Infringement

This brings us to FSI's cross-appeal from the district court's grant of McGinley's motion for summary judgment of infringement. At the summary judgment stage, the district court compared the asserted claims of the '193 patent as they had been construed in McGinley I to undisputed evidence concerning FSI's 2705 baseball. In the accused FSI 2705 baseball, the finger placement indicia are in the shape of finger-like outlines that are blunted at the end furthest from the fingertips.

Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to

any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). For purposes of the motion, "the evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255, 91 L. Ed. 2d 202, 106 S. Ct. 2505 (1986). [*15]

Upon reviewing the record before it at that stage of the litigation, the district court concluded that FSI had not demonstrated the existence of any genuine issue as to any material fact concerning infringement. Specifically, the finger-shaped markings on the accused FSI 2705 baseball were found by the district court to be functionally identical and structurally equivalent to the tapered egg-shaped indicia disclosed in the '193 patent:

Although the markings on defendant's ball are shaped somewhat differently than those found on plaintiff's product,[n1] the court concludes that the difference is insubstantial: an elongation of the finger indicia, coupled with "blunting" the ends of each mark, as opposed to tapering them, adds nothing of significance to the structure disclosed in plaintiff's patent specification. Both types of indicia show the student precisely how to grip the baseball, and the difference between the structure used to accomplish this function is, at best, an insignificant alteration.

McGinley II at 1224 (footnote not in original). We review de novo the district court's legal conclusion that summary judgment of infringement was warranted [*16] in this case. *Ethicon Endo Surgery, Inc. v. United States Surgical Corp.*, 149 F.3d 1309, 1315, 47 U.S.P.Q.2D (BNA) 1272, 1275 (Fed. Cir. 1998).

- - - - -Footnotes- - - - -
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n1 We note that the district court incorrectly referred to "plaintiff's product" repeatedly in its memorandum and order granting summary judgment of infringement, where "plaintiff's asserted claims" were clearly meant to be referenced instead. See, e.g., McGinley II at 1224. Upon reviewing the record, we conclude that these erroneous statements were harmless, since there is no contention by any party that any significant differences exist between McGinley's commercial embodiment ("the RCIB") and relevant aspects of the asserted claims.

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On appeal, FSI does not quibble with the district court's

conclusion that the finger-shaped markings on the accused FSI 2705 baseball are structural equivalents of the tapered egg-shaped indicia described in the '193 patent. Instead, FSI simply argues that the "means for orienting" limitation in the asserted claims is [*17] not entitled to a range of equivalents at all. Since we have already rejected that argument, FSI's cross-appeal on infringement falls as well. Moreover, our review of the record reveals that FSI did not present any nonconclusory evidence in opposition to McGinley's summary judgment of infringement which would tend to indicate that an artisan of ordinary skill would not consider the finger-shaped indicia on the accused FSI 2705 baseball to be structural equivalents of the tapered egg-shaped indicia explicitly described in the '193 patent. Therefore, we affirm the district court's grant of summary judgment of infringement.

IV

Obviousness

A patent is invalid for obviousness if "differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a) (1994). "Throughout the obviousness determination, a patent retains its statutory presumption of validity, see 35 U.S.C. § 282, and the movant retains the burden to show the [*18] invalidity of the claims by clear and convincing evidence as to underlying facts." *Rockwell Int'l. Corp. v. United States*, 147 F.3d 1358, 1364, 47 U.S.P.Q.2D (BNA) 1027, 1031-32 (Fed. Cir. 1998).

Although it is well settled that the ultimate determination of obviousness is a question of law, it is also well understood that there are factual issues underlying the ultimate obviousness decision. *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1479, 44 U.S.P.Q.2D (BNA) 1181, 1183 (Fed. Cir. 1997). Specifically, the obviousness analysis is based on four underlying factual inquiries, the well-known Graham factors: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations, if any, of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 15 L. Ed. 2d 545, 86 S. Ct. 684 (1966); *Kegel Co., Inc. v. AMF Bowling, Inc.*, 127 F.3d 1420, 1430, 44 U.S.P.Q.2D (BNA) 1123, 1130 (Fed. Cir. 1997).

At trial, FSI argued, *inter alia*, that the asserted claims of the '193 patent were obvious in view of either Pratt alone, or in [*19] view of Pratt in combination with Morgan. FSI's obviousness theories are best summarized in its own words from its opening brief on appeal:

The only element of the asserted claims that is not

clearly anticipated by the Pratt patent is the finger shaped marks that orient the ball with respect to the palm of the user's hand. However, this feature is obvious in light of the lines indicating finger placement on the drawings of the Pratt patent. Moreover, the concept of a set of finger marks to orient the ball is clearly taught in the Morgan patent. It would have been obvious to one of ordinary skill in the art to substitute the finger marks of the Morgan patent for the marks of the Pratt patent. Or, stated another way, it would have been obvious to place three sets of marks on the Morgan ball in light of the teaching of Pratt.

In other words, FSI argued to the jury that the "missing element" in Pratt (i.e., the "means for orientation") can be found either in the "phantom lines" of Pratt or in Figure 6 of Morgan. McGinley argued at trial that there was no motivation to combine the prior art as suggested by FSI, and that even if such a motivation to combine had been demonstrated, [*20] that the commercial success of both McGinley's RCIB and FSI's accused 2705 baseball constituted sufficient evidence of secondary considerations that would negate any prima facie showing of obviousness.

The jury agreed with McGinley. Specifically, in the special verdict form used in this case, the jury answered three questions that are relevant to this appeal in favor of McGinley. First, the jury found that FSI had not proven by clear and convincing evidence that each of the elements of the invention defined in claims 1, 2, 6 and 7 of the '193 patent is disclosed in Pratt. This was a factual finding. In re Beattie, 974 F.2d 1309, 1311, 24 U.S.P.Q.2D (BNA) 1040, 1041 (Fed. Cir. 1992) ("What a reference teaches is a question of fact.").

Second, the jury found that FSI had not proven by clear and convincing evidence that any of the asserted claims were invalid as being obvious in view of Pratt alone. Finally, the jury found that FSI had not proven by clear and convincing evidence that any of the asserted claims were invalid as being obvious in view of a combination of Pratt and Morgan. These latter two findings by the jury are directed to the ultimate legal issue of obviousness, [*21] and provide no insight as to the jury's findings with respect to the underlying factual underpinnings. The parties do not object to the phrasing of the questions that were posed to the jury in the verdict form, nor do they challenge the district court's comprehensive jury instructions on obviousness.

In its motion for JMOL, FSI argued that no reasonable jury could have concluded that the asserted claims were not obvious in view of either Pratt alone or in view of Pratt in combination with Morgan. The district court agreed, and granted FSI's motion for JMOL. Specifically, the court found that "no reasonable jury could conclude that the motivation to combine Pratt and Morgan

did not exist." Moreover, the district court "simply [did] not believe that the evidence regarding secondary considerations [was] sufficient to overcome its firm conclusion that, as a matter of law, plaintiff's patent is invalid as obvious in light of Pratt or the combination of Pratt and Morgan." In sum, the district court concluded that "in light of Pratt alone, as well as in light of Pratt and Morgan in combination, the claims set forth in the '193 patent are invalid as obvious." n2

-----Footnotes-----

n2 We interpret this statement as referring solely to the asserted claims.

-----End Footnotes-----

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We review a grant of JMOL without deference to the district court. *Tex. Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1563, 39 U.S.P.Q.2D (BNA) 1492, 1496 (Fed. Cir. 1996). Entry of JMOL is inappropriate unless the jury's verdict is unsupported by substantial evidence or premised on incorrect legal standards. *Applied Med. Res. Corp. v. United States Surgical Corp.*, 147 F.3d 1374, 1376, 47 U.S.P.Q.2D (BNA) 1289, 1290-91 (Fed. Cir. 1998); accord *Jackson v. City of Albuquerque*, 890 F.2d 225, 230 (10th Cir. 1989); *J.I. Case Credit Corp. v. Crites*, 851 F.2d 309, 311 (10th Cir. 1988) (noting that JMOL is appropriate "only if the proof is all one way or so overwhelmingly preponderant in favor of the movant as to permit no other rational conclusion").

In analyzing the correctness of a JMOL overturning a jury verdict of nonobviousness, we must consider the facts before the district court, and then determine whether the district court's ultimate judgment on obviousness is correct as a matter of law. *Richardson-Vicks*, 122 F.3d at 1479, 44 U.S.P.Q.2D (BNA) at 1183. In re-creating the facts as they may have been found by [*23] the jury, and in applying the Graham factors to the evidence of record in this case, we assess the evidence in the light most favorable to the verdict winner, in this case McGinley. *Id.*; accord *Lucas v. Dover Corp.*, 857 F.2d 1397, 1400 (10th Cir. 1988) ("In determining whether the grant of a motion for [JMOL] is appropriate, the court must view the evidence and indulge all inferences in favor of the party opposing the motion and cannot weigh the evidence, consider the credibility of witnesses or substitute its judgment for that of the jury.") (internal quotations omitted).

Whether a patent claim is obvious under section 103 depends upon the answer to several factual questions and how the factual answers meld into the legal conclusion of obviousness vel non. In this case, we think that the central question is whether there is reason to combine the Pratt and Morgan references, because if the references are properly combined, it is certain that the claims are prima facie invalid for obviousness. If the jury was

entitled to conclude that these two references should not be combined, then the asserted claims of the '193 patent cannot be invalid for obviousness [*24] in the light of the proposed combination. If those claims are not invalid under a combination of Pratt and Morgan, then, as a matter of logic, those claims cannot be invalid in the light of Pratt alone. We thus turn first to the issue of whether Pratt and Morgan must be combined.

The genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some "teaching, suggestion or reason" to combine cited references. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 U.S.P.Q.2D (BNA) 1378, 1383 (Fed. Cir. 1997). When the art in question is relatively simple, as is the case here, the opportunity to judge by hindsight is particularly tempting. Consequently, the tests of whether to combine references need to be applied rigorously. See *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2D (BNA) 1614, 1617 (Fed. Cir. 1999), limited on other grounds by *In re Gartside*, 203 F.3d 1305, 53 U.S.P.Q.2D (BNA) 1769 (2000) (guarding against falling victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its [*25] teacher).

Whether a motivation to combine prior art references has been demonstrated is a question of fact. *Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 1348, 53 U.S.P.Q.2D (BNA) 1580, 1586 (Fed. Cir. 2000). The assessment of whether to combine references in a given case has sometimes been viewed conceptually as a subset of the first Graham factor, the scope and content of the prior art. See, e.g., *id.*; *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 881-83, 886, 45 U.S.P.Q.2D (BNA) 1977, 1981-82, 1985 (Fed. Cir. 1998). Although that view is not incorrect, accurate assessment of whether to combine references may require attention to other Graham factors. For example, the level of skill in the art may inform whether the artisan would find a suggestion to combine in the teachings of an exemplar of prior art. Where the level of skill is high, one may assume a keener appreciation of nuances taught by the prior art. Similarly, appreciation of the differences between the claims in suit and the scope of prior art references - a matter itself informed by the operative level of skill in the art -- informs the question of whether to combine [*26] prior art references. At bottom, in each case the factual inquiry whether to combine references must be thorough and searching.

There is no question here that FSI presented sufficient evidence at trial from which a jury could have decided that one of ordinary skill in this case would have been motivated to combine Pratt and Morgan to produce a prima facie obvious invention. Specifically, FSI argued to the jury that the only elements of the asserted claims that are not clearly anticipated by Pratt are the finger-shaped marks that orient the ball with respect to the palm of the user's hand. Referring to the "phantom lines" in Pratt as suggestive of finger placement on the ball, FSI argued that one

of ordinary skill would have been motivated to substitute the finger marks from the Morgan ball for the circular marks on Pratt, or alternatively to place three sets of marks on the Morgan ball in the light of Pratt's teachings. In addition, FSI argued that one of ordinary skill would have known to add the finger orientation means of the Morgan patent to Pratt by "filling in" the phantom lines in Pratt's drawings and treating them as finger orientation means.

But the jury did not hear a one-sided [*27] case on the issue of obviousness generally, and in particular on whether to combine Pratt and Morgan. As FSI conceded at oral argument, McGinley presented reasons to the jury to reject a combination of the references. McGinley argued many grounds to support his contention that the asserted claims are not obvious in the light of Pratt and Morgan. To counter FSI's claim that those references should be combined to render McGinley's "means for orientation" obvious, McGinley pointed to specific differences between the prior art and the asserted claims. For example, Morgan does not disclose the required markings for at least three different kinds of pitches, as do the asserted claims. And Morgan does not disclose markings on a real baseball, as do Pratt and the asserted claims. We recount the gist of this testimony below.

The jury heard from Mr. Charles Quinn, FSI's vice president of marketing and corporate representative at trial. Quinn testified in detail as to the express teachings of Pratt and Morgan, and as to the differences between these references and the asserted claims. For example, he conceded that the markings on the baseball in Pratt's invention were circular, and therefore [*28] incapable of indicating orientation. Trial Tr. Vol. 2, p. 140. He also acknowledged that the "phantom lines" in Pratt's drawings were not actually markings on a baseball. Trial Tr. Vol. 2, pp. 177-78. Quinn also pointed out that Morgan did not discuss implementing a baseball training device using a regulation baseball. Trial Tr. Vol. 2, pp. 172-73. Moreover, he acknowledged that Morgan taught only the provision of indicia for throwing a single type of pitch on each training device, instead of three sets of indicia as required in the asserted claims. Trial Tr. Vol. 2, p. 145.

The jury also heard from Mr. Richard Stitt, the attorney who prosecuted the '193 patent. Stitt testified at length about the prosecution history of the '193 patent and the fact that Pratt and Morgan were considered by the PTO throughout the entire pendency of McGinley's application. He confirmed that the "phantom lines" in Pratt's drawings were not actually marked on a baseball. Trial Tr. Vol. 3, p. 56. Stitt also pointed out that the PTO never rejected the asserted claims as obvious in view of Pratt, and that it was never suggested by the PTO that the phantom lines of Pratt could easily be transferred to the [*29] actual baseball to arrive at McGinley's claimed invention. Trial Tr. Vol. 3, pp. 57-58.

Stitt testified that the PTO never rejected McGinley's claims by

saying that one could substitute the "elongate finger-shaped markings" shown in Figure 6 of Morgan in place of the "circular dots" in Pratt. Trial Tr. Vol. 3, p. 63. He also pointed out that the PTO could have issued an obviousness rejection of the asserted claims based on a theory of transferring Pratt's phantom lines onto the baseball, but never did so. Trial Tr. Vol. 3, p. 185. Similarly, he testified that the PTO could have issued an obviousness rejection of the asserted claims based on a theory of combining Pratt with Morgan, but never did so either. Trial Tr. Vol. 3, p. 186.

Stitt also testified that he flew to the Patent Office in Washington, D.C., with McGinley for an interview with the Examiner to discuss the differences between Pratt and Morgan and the claimed invention. Trial Tr. Vol. 3, pp. 142-145. Finally, he explained in detail why neither Pratt nor Morgan alone or in combination with each other would provide the claimed "means for orientation." Trial Tr. Vol. 3, pp. 150-52.

In addition, McGinley relied heavily on [*30] the presumption of validity to which his patent is entitled by the terms of 35 U.S.C. § 282, mainly in the context of Stitt's tutorial concerning how McGinley's patent was prosecuted, and in McGinley's opening statement and closing argument to the jury. As noted above, throughout the trial, McGinley pointed out that both the Pratt and Morgan references were before the examiner who tested McGinley's patent for validity. Indeed, those two references were discussed in an interview between the applicant and the examiner. The examiner rejected McGinley's claims as anticipated by Pratt, and made no mention of any concern as to obviousness in view of Pratt alone or of a combination of Pratt and Morgan. The Board of Patent Appeals and Interferences reversed the examiner's anticipation rejection, holding that Pratt failed to teach McGinley's means for orienting the baseball relative to the palm of the hand. In due course, McGinley's patent issued and became clothed with the statutory presumption of validity, with no obviousness challenge having been mounted against it, either on the basis of Pratt alone, or of Pratt in combination with Morgan.

The jury in this case was [*31] expressly charged that the patent in suit is entitled to the presumption of validity, and that FSI could only overcome that burden with clear and convincing evidence to the contrary. It is well established in our case law that FSI's burden in this case was especially heavy:

When no prior art other than that which was considered by the PTO examiner is relied on by the attacker [FSI], he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is

to issue only valid patents. In some cases a PTO board of appeals may have approved the issuance of the patent.

American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1359, 220 U.S.P.Q. (BNA) 763, 770 (Fed. Cir. 1984), cert. denied, 469 U.S. 821, 105 S. Ct. 95, 83 L. Ed. 2d 41 (1984).

Perhaps McGinley's best argument to save his claims from prima facie obviousness in the light of Pratt and Morgan is his contention that those [*32] references together teach away from their combination. We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a prima facie case of obviousness. In re Gurley, 27 F.3d 551, 553, 31 U.S.P.Q.2D (BNA) 1130, 1132 (Fed. Cir. 1994). If references taken in combination would produce a "seemingly inoperative device," we have held that such references teach away from the combination and thus cannot serve as predicates for a prima facie case of obviousness. In re Sponnoble, 56 C.C.P.A. 823, 405 F.2d 578, 587, 160 U.S.P.Q. (BNA) 237, 244 (CCPA 1969) (references teach away from combination if combination produces seemingly inoperative device); see also In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. (BNA) 1125, 1127 (Fed. Cir. 1984) (inoperable modification teaches away).